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Abstract of the Disclosure

The subject invention concerns compositions and methods for blocking cancer cell growth or proliferation and/or inducing cancer cell death. Compositions of the present invention are peptidomimetics that inhibit STAT function. Peptidomimetics of the invention include

5 compounds of the formula RY*L (where Y* represents phosphotyrosine), with the R group at the Y-1 position. Peptidomimetics of the invention disrupt Stat3 activation and function. Peptidomimetics of the invention significantly inhibit tumor cell growth and induce tumor cell death.